The bone

The bone is the distal end of a cow's right humerus. Measurements demonstrate that the bone is within the size range normal for Iron Age cattle. Only 30% of the original bone length survives and it is unclear whether or not it was broken before deposition. Thirty-nine coins would not all have fitted inside the bone as it survives today. In all respects the bone is ordinary. It shows no remarkable features and has the appearance of an ordinary item from butchery or food waste.

Discussion

The discovery of the Iron Age hoard is important, particularly as this is the only major collection to be uncovered in East Anglia as part of a long-term archaeological research project. It is only the second to be recovered from inside a bone (the other being the Honley hoard recovered in the 1800s in Yorkshire, which contained Roman and Iron Age coins and objects: Petch 1924). The hoard is the fifth Gallo-Belgic E hoard to be recovered from Norfolk (the others being Weybourne, 39 coins; Fring, 173 coins; Wormegay, seven coins; and Buxton-with-Lammas, fourteen coins). It may be significant that these finds are mostly from the north-west of Norfolk, an area that has been noted for the richness of its portable finery and for strong local regional traditions that are reflected in characteristic decorative styles, monument and artefact types. SHARP will continue to investigate the fascinating archaeology of this area in the future.

Full publication of the hoard will be in *The Sedgeford Hoard*, which will be available in Summer 2004.

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Plates 1 and 2 are by Hilary Snelling.

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TWO ROMAN BROOCH FINDS FROM HOCKERING AND FELMINGHAM

by Justine Bayley, David Gurney and D.F. Mackreth

Multiple bow brooch from Hockering Site 36541

(Fig. 1)

In October 2001, whilst metal-detecting by Mr A. Carter, a further Roman multiple bow brooch was discovered at a site in Hockering. This is only the fifth example of the type to be recorded, and the fourth example of the double bow variety. For the earlier finds, see *Norfolk Archaeology* XLIII Part 1(1998), 177–9.

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It is a double bow brooch, fairly plain, with a simple knurled rib down the centre of each bow. Overall it is slightly damaged and battered, and the pin and catchplate are missing, but there are remains of a white metal coating, almost certainly tinning, in the grooves and on the reverse.

The brooch has a typical Dolphin-like hump at the top of each bow, and the spring is held by an iron axis bar in a wide slot in the tubular wings (as Hattatt 357–8). Above the wings there is a projection, damaged or broken on one side and tinned on the 'top', which may have been a means of affording extra protection to the spring that sat beneath it. It seems to be too solid to have been a chain loop.

It is important to note that the spring arrangement here is different from any of the previously-recorded examples, suggesting that quite a few brooch workshops at various times in the early Roman period (and probably mainly in Norfolk) were producing these seemingly unusual and interesting variants to the usual 'run-of-the-mill' types.



36541



34732

Figure 1. Multiple bowbrooch from Hockering (Site 3654); brooch mould from Felmingham (Site 34732). Scale 1:1

Bronze mould from Felmingham Site 34732

(Fig. 1)

In November 1999, whilst metal-detecting by Mr M. Harmer, a further example of a bronze mould was discovered. For the only other recorded examples of bronze moulds anywhere in the Roman Empire, see Bayley, J., Mackreth, D.F. and Wallis, H., 2001, 'Evidence for Romano-British Brooch Production at Old Buckenham, Norfolk', *Britannia* 32, 93–118. Mr D.F. Mackreth has kindly provided the following report:

This can be identified as one half of a two-piece mould for the manufacture of the Icenian rearbook-type brooch. The variety cannot be identified as the front half of the mould is missing (despite further exhaustive searching by the finder). The proportions are slightly odd in that it is as wide as it is high. The date must be before AD 54–60, when to all intents and purposes the brooch ceases not only to be made but, seemingly, worn.

Dr Justine Bayley of the English Heritage Centre for Archaeology has analysed the surface of the mould by X-ray fluorescence, which showed it to be a lightly leaded bronze. A full analysis of a sample from the mould was undertaken by Dr David Dungworth (also EH CfA) who reported the following composition: Cu 83.6%, Sn 7.4%, Zn 0.7%, Pb 7.3% and Fe 0.1%. The two analyses are in full agreement. Dr Bayley has also contributed the following report:

The mould can be compared with those from Old Buckenham, though the alloy of which it is made and its design are rather different. The most obvious difference is that the sprue cup, through which the metal was poured into the mould, is at the head rather than the foot of the brooch. This is unusual, as the only other Roman brooch moulds that were filled from this end were for early 1st-century brooch types where the sprue and runner were hammered out to form the spring/pin of a one-piece brooch which needed to be attached to the brooch head. Where the spring/pin was a separate piece of metal, the main body of the brooch was usually cast from the foot end. The main reason for this departure from normal practice may have been that the rearhook on the head which D.F. Mackreth has identified would have been awkward to make at the closed end of the mould. Alternatively, the craftsman who made this mould may have had a personal preference for the sprue cup being at the head of the brooch, even though there was no functional reason for this.

The two holes through the mould suggest that the method of holding its original two valves together was similar to that used on the Old Buckenham moulds, but as the front valve of the mould is missing there can be no certainty about this. It is also not clear if the foot end of the mould is incomplete, or whether the end of the cavity would have been closed by the front valve which would have wrapped round and extended beyond the end of the back valve, a return closing off the foot so the molten metal did not run out. The front valve may have been considerably expanded at the foot end so the assembled mould would stand securely the right way up for use.

The large mass of the mould, in comparison with that of the brooch cast in it, is necessary to ensure that the heat from the casting was conducted away quickly enough so the mould itself was not melted. As a leaded bronze, the mould would have had a slightly lower melting point than the unleaded bronze which was probably cast within it. This would not have mattered as the thermal capacity of the mould would have been sufficient to avoid disaster.

EXCAVATION OF A RING-DITCH AT HOPTON ON SEA, 2002 by Kenneth Penn

Introduction

(Fig. 1)

A series of features was examined during archaeological investigations during 2002 beside Lowestoft Road, Hopton on Sea (TM 527 999). The excavation (HER Site 16167; Fig. 1) was conducted by the Norfolk Archaeological Unit prior to residential development by Persimmon Homes (Anglia) Ltd. The site was selected for evaluation and excavation because a palimpsest of crop-marks had been identified on aerial photographs (Brennand 2000; Penn 2002). These were